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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,321	08/20/2004	Kinya Nakatsu	056208.55243US	5168

7590 06/24/2009  
Crowell & Moring  
The Evenson McKeown Edwards & Lenahan  
Intellectual Property Law Group  
1001 Pennsylvania Avenue NW  
Washington, DC 20004-2595

EXAMINER
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McCLOUD, RENATA D

ART UNIT	PAPER NUMBER
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2837

MAIL DATE	DELIVERY MODE
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06/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/505,321

**Applicant(s)**

NAKATSU ET AL.

**Examiner**

RENATA MCCLOUD

**Art Unit**

2837

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-26 and 30-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-29 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date 8/20/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of embodiment 11 in the reply filed on 03/18/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 1-26,30-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03/18/09.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 27-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Pelly (US 6429639) in view of Levin (US 4283643) .

Claim 27: Pelly teaches a power converter comprising a module having a power controlling semiconductor element (fig. 1:19; col. 2:1-7), and a current detector, for detecting current inputted into said power controlling semiconductor element or outputted from said power controlling semiconductor element (col. 2:1-7); and a conductive member (fig 1:13-15; fig 2:41) through which induction current flows due to electromagnetic induction generated by current flowing through said current detector (col. 2:15-30); wherein said current detector has: a conductor (13-15) electrically connected to said power controlling semiconductor element (19;

col. 2:15-38), and a magnetic detecting unit (fig. 1:16-18, hall sensors) which is disposed in said conductor or in the vicinity of said conductor (13-15) and has a magnetic detecting semiconductor element (fig. 1:16-18, fig 2:42, hall sensors; col. 2:20-45; ), and among magnetic flux generated by said conductor, said magnetic detecting unit detecting magnetic flux having a component parallel to the perpendicular line which vertically intersects with said conductive member (col. 2:20-30). Although implicitly taught, Pelly does explicitly recite a control unit for controlling operation of said power controlling semiconductor element or the magnetic detecting semiconductor element is electrically connected to said control unit. Levin teaches a current detector wherein said current detector has: a conductor (12) electrically connected to a power controlling semiconductor element (col. 5:30-40), and a magnetic detecting unit (fig 1:11, hall sensor) which is disposed in said conductor or in the vicinity of said conductor and has a magnetic detecting semiconductor element (14; col. 3:60-4:7 ), and among magnetic flux generated by said conductor, said magnetic detecting unit detecting magnetic flux having a component parallel to the perpendicular line which vertically intersects with said conductive member (col. 1:10-19, 2:11-22, 3:8-25, 4:30-41, col. 5:6-26). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus Pelly to have the controller of Levin in order to control the Hall current and decrease dc offset bias.

Claim 28: Levin teaches a conductor (18) has a portion which protrudes in the direction away from said conductive member (12) and among magnetic flux generated by said conductor portion protruding in the direction away from said conductive member (col. 4:8-18); and said magnetic detecting unit (11) detects magnetic flux having a component parallel to the perpendicular line which vertically intersects with said conductive member (12; col. 4:8-41).

Claim 29. Levin teaches a conductor (18) has a portion which protrudes in the direction away from said conductive member (12) and is parallel to said conductive member; and said

magnetic detecting unit (11) is disposed in said conductor portion which protrudes in the direction away from said conductive member and is parallel to said conductive member (12) so that the magnetic detection surface (surface of 14) of said magnetic detecting semiconductor element (14) is parallel to said conductive member (12) and is vertical and parallel to said conductor portion (18) which protrudes in the direction away from said conductive member (12) and is parallel to said conductive member (col. 4:8-41).

4. Claim 41 rejected under 35 U.S.C. 103(a) as being unpatentable over Pelly (US 6429639) in view of Levin (US 4283643) as applied to claim 27 above and further in view of Masberg et al (US 6148784).

Claim 41: Pelly and Levin teach the power converter according to claim 27. Referring to claim 41, they do not teach a mobile body comprising: a body; a driven device provided in said body; a motor for being driven by an external power source or electric power supplied from an internal power source mounted to said body thereby driving said driven device; and a power converter for controlling electric power supplied from said power source to said motor. Masberg et al teach a mobile body comprising: a body (col. 1:48-60, vehicle); a driven device provided in said body (col. 1:48-60, engine); a motor (4) for being driven by an external power source or electric power supplied from an internal power source mounted to said body (fig 4: battery) thereby driving said driven device; and a power converter (fig 4:20) for controlling electric power supplied from said power source to said motor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Pelly and Levin to be used in the mobile body of Masberg et al in order to control power to the motor.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They disclose various power converter devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RENATA MCCLOUD whose telephone number is (571)272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Renata McCloud/  
Examiner, Art Unit 2837